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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,286	04/27/2001	Changhui Yang	301505.2004-001	9999

30407 7590 07/07/2003

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EXAMINER

LEE, HWA S

ART UNIT PAPER NUMBER

2877

DATE MAILED: 07/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/844,286

Applicant(s)

YANG ET AL.

Examiner

Andrew H. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is confusing how a heterodyne signal can be obtained when the dichroic mirrors separate out the two frequencies and each frequency is detected separately when the principle of heterodyning relies on the combination of two frequencies.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2-6, 8-14, 17-22-25, 27, 28, 31-33, and 35-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Nathel et al (6,015,969).

Nathel et al (Nathel hereinafter) show multiple-wavelength spectroscopic quantitation of light –absorbing species in scattering media comprising:

irradiating a region of interest in the material (30) with spatially coherent light having a first beam with a first wavelength and a second beam with a second wavelength (12, 14);

directing reference light having the first wavelength and the second wavelength along an optical path having a variable path length;

detecting (44) scattered light from the material in response to the irradiating light and detecting the reference light while varying the path length (32); and generating a heterodyne signal from the detected scattered light (36) and the detected reference light (40).

5. Claims 2, 15, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujita.

Fujita shows an optical device for measuring surface shape comprising:

irradiating a region of interest in the material (16) with spatially coherent light having a first beam with a first wavelength and a second beam with a second wavelength;

directing reference light having the first wavelength and the second wavelength along an optical path having a variable path length;

detecting scattered light from the material in response to the irradiating light and detecting the reference light while varying the path length (32); and generating a heterodyne signal from the detected scattered light (36) and the detected reference light (40);

and forming an image of the region of interest.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 16, and 30 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita as applied to claims 2, 15, and 29 above.

Fujita does not expressly teach that size of the material is computed. However, it would be inherent that size of portions of the sample is determined since the profile of the sample is determined.

8. Claims 7 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Groot et al (5,838,485).

de Groot et al show a superheterodyne interferometer for compensating the refractive index of air comprising;

irradiating a region of interest in the material (30) with spatially coherent light having a first beam with a first wavelength and a second beam with a second wavelength (12, 14);

directing reference light having the first wavelength and the second wavelength along an optical path having a variable path length;

detecting (44) scattered light from the material in response to the irradiating light and detecting the reference light while varying the path length (32); and generating a heterodyne signal from the detected scattered light (36) and the detected reference light (40).

determining the refractive index of air.

de Groot fails to does not expressly show the determining the refractive index of tissue.

At the time of the invention, one of ordinary skill in the art would have used de Groot in order to determine the refractive index of tissue because need for determining the refractive index of tissue is well known and one of ordinary skill in the art would recognize that the apparatus of de

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Groot determines the refractive index of a sample (air) and that the sample is can be anything where the determination of refractive index is desired such as air or tissue.

Papers related to this application may be submitted to Technology Center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the PTO Fax Center located in CP4-4C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Center numbers are 703-872-9318 for regular communications and 703-872-9319 for After Final communications

If the Applicant wishes to send a Fax dealing with either a Proposed Amendment or for discussion for a phone interview then the fax should:

a) Contain either the statement "DRAFT" or "PROPOSED AMENDMENT" on the Fax Cover Sheet; and

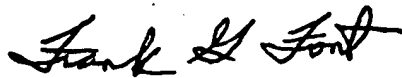
b) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Hwa Lee whose telephone number is (703) 305-0538. The examiner can normally be reached on M-Th. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 703-308-4881.

Andrew Lee
Patent Examiner
Art Unit 2877
June 18, 2003/ahl



Frank Font
Supervisory Patent Examiner
Art Unit 2877